

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: SUMIYA, et al.

Filed: October 15, 2003

For: A DEPTH OF INTERACTION DETECTOR WITH UNIFORM  
PULSE-HEIGHT

**INFORMATION DISCLOSURE STATEMENT  
UNDER 37 CFR § 1.97 AND 1.98**

Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

October 15, 2003

Sir:

Pursuant to Applicants' duty of disclosure, enclosed please find copies of documents to be considered during examination of the above-identified application. Also enclosed is a Form, substantially equivalent to Form PTO-1449, listing the submitted documents.

This Information Disclosure Statement is being submitted concurrently with the filing of the above-identified application. Accordingly, requirements of 37 CFR § 1.97(b) are satisfied.

To the extent that the enclosed documents are not in English, it is respectfully submitted that requirements of 37 CFR § 1.97(a)(3) are satisfied by the enclosed English Abstracts of the Japanese documents, as well as by discussion of these documents in Applicants' specification.

In view of all of the foregoing, it is respectfully submitted that all applicable requirements of 37 CFR 1.97 and 1.98 have been satisfied, in connection with each of the enclosed documents. Accordingly, consideration of the enclosed documents, upon examination of the above-identified application, is respectfully requested.

473.43213X00

To the extent necessary, Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (referencing docket no. 473.43213X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

A handwritten signature in cursive script, appearing to read "William I. Solomon", is written over a horizontal line.

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<b>Form PTO-1449</b>  <b>U.S. DEPARTMENT OF COMMERCE</b> <b>PATENT AND TRADEMARK OFFICE</b>  <b>INFORMATION DISCLOSURE STATEMENT</b> <b>BY APPLICANT</b>  <b>(Use several sheets if necessary)</b>	<b>ATTY. DKT. NO.</b> 473.43213X00	<b>SERIAL NO.</b> TBD
	<b>APPLICANT</b> Sumiya	
	<b>FILING DATE</b> October 15, 2003	<b>GROUP</b> TBD

**U.S. PATENT DOCUMENTS**

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date
AA	4,945,241	7/31/1990	Yamashita, et al.			
AB						
AC						
AD						

**FOREIGN PATENT DOCUMENTS**

Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation/ Abstracts	
						Yes	No
AE	1-229995	9/13/1989	Japan				
AF	11-142523	5/28/1999	Japan			X	
AG	63-47686	2/29/1988	Japan			X	
AH	2000-56023	2/25/2000	Japan			X	
AI	2003-21682	1/24/2003	Japan			X	
AJ							
AK							
AL							

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

AM	Murayama, et al., "Design of a Depth of Interaction Detector with a PS-PMT for PET", IEEE Transactions on Nuclear Science, Vol. 47, No. 3, June 2000, pages 1045-1050		
AN	Murayama, et al. "Depth Encoding Multicrystal Detectors for PET", IEEE Transactions on Nuclear Science, Vol. 45, No. 3, June 1998, pages 1152-1157		
AO	Inodama, et al., "A Depth of Interaction Detector for PET With GSO Crystals Doped with Different Amounts of Ce", IEEE Transactions on Nuclear Science, Vol. 49, No. 3, June 2002, pages 629-633		
AP			
AQ			
AR			
<table border="1"> <tr> <td><b>Examiner</b></td> <td><b>Date Considered</b></td> </tr> </table>		<b>Examiner</b>	<b>Date Considered</b>
<b>Examiner</b>	<b>Date Considered</b>		

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 18 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC